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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,299

07/14/2006

Chikara Ohki

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EXAMINER

ROE, JESSEE RANDALL

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

02/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,299	Applicant(s) OHKI ET AL.	
	Examiner Jessee Roe	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11 November 2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

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Priority

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Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

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Formatted: No bullets or numbering, Keep with next***Status of the Claims***

Claims 1-6 are pending wherein claim 5 is amended and claims 1-4 are withdrawn from consideration.

Status of Previous Rejections

The previous rejection of claims 5-6 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which Applicant regards as the invention is withdrawn in view of the Applicant's arguments. The previous rejection of claims 5-6 under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 5,413,643) is withdrawn in view of the Applicant's arguments and amendments to claim 5.

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Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohki (US 2003/0123769).

In regards to claim 5, Ohki ('769) discloses subjecting steel for a bearing part to a carbonitriding treatment at 845°C wherein the steel comprises 0.6 to 1.2 weight percent carbon, 0.5 to 1.1 weight percent silicon, 0.3 to 1.5 weight percent manganese, and not greater than 2 weight percent chromium (abstract, Fig. 2, [0020], and [0025]). The Examiner notes that the rolling bearing composition and carbonitriding treatment temperatures disclosed by Ohki ('769) overlap the claimed carbonitriding treatment of 810°C to 950°C and the claimed composition of the steel containing 0.8 to 1.5 weight percent carbon, 0.4 to 1.2 weight percent silicon, 0.8 to 1.5 weight percent manganese, and 0.5 to 1.8 weight percent chromium, which is prima facie evidence of obviousness. MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the claimed carbonitriding treatment temperatures and the steel alloy composition from the carbonitriding treatment temperatures and steel alloy composition disclosed by Ohki ('769) because Ohki ('769) discloses the same utility throughout the disclosed ranges.

With respect to the recitation "the steel having a position exhibiting HRC50 in a hardenability test (JISG0561) apart from a quenched end by at least 12.7 mm", the Examiner asserts that the steel of Ohki ('769) would have the recited hardness because Ohki ('769) recites the same or a substantially similar composition in addition to a substantially similar process. MPEP 2112.01 I. There is no mention in this action regarding indefinite language.

With respect to the amended recitation "subsequently cooling the part to a temperature range lower than a transformation point A1 of said steel to provide a

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quenched part; tempering the quenched part, and subsequently heating the part again after tempering to a quenching temperature range not lower than the transformation point A1 and lower than a temperature used for said carbonitriding or nitriding, to quench the part.” In lines 6-11 of claim 5, Ohki ('769) discloses oil cooling (quenching) after heating to 845°C, heating to 800°C followed by quenching and then tempering at 180°C (Fig. 2). Although the Examiner notes that Ohki ('769) discloses the same steps in a different order, the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. MPEP 2144.04 (IV)(C). The Applicant has not clearly shown a difference in the properties that result from a process of tempering in between the sequences of carbonitriding/quenching and reheating/quenching and the properties that result from a process of tempering after carbonitriding, quenching, reheating, quenching.

In regards to claim 6, Ohki ('769) discloses heating to 800°C prior to oil cooling (quenching), which would be within the range of 750-810°C as instantly claimed.

Response to Arguments

Applicant's arguments filed 24 December 2008 have been fully considered but they are not persuasive.

The Applicant primarily argues that Ohki ('769) does not suggest the tempering step of claim 5. The Applicant further argues that tempering between the first and second quenching steps suppresses cracking after the first quenching step and this benefit is not suggested by the cited references.

In response, the Examiner notes that the selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. MPEP 2144.04 (IV)(C). The Applicant has not clearly shown a difference in the properties that result from a process of tempering in between the sequences of carbonitriding/quenching and reheating/quenching and the properties that result from a process of tempering after carbonitriding, quenching, reheating, quenching.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/
Primary Examiner, Art Unit 1793

JR